Claims:

[30020533 US]

1. A power measurement system for measuring power of an electromagnetic signal, the system comprising:

a measuring unit for translating an electrical signal originating from a sensor into a power measurement;

a sensor unit comprising the sensor and an amplification circuit;

a cable for coupling the measuring unit to the sensor unit, the sensor unit and the cable defining a path for communicating the electrical signal originating from the sensor to the measuring unit; and

a source of a reference signal capable of being tapped into the path in order to communicate the reference signal to the measuring unit.

2. A system as claimed in Claim 1, wherein the source of the reference signal is arranged to be coupled to the amplification circuit in place of the sensor.

3. A system as claimed in Claim 1, wherein the source of the reference signal is arranged to be coupled to the amplification circuit in addition to the sensor as a stimulus to the sensor.

4. A system as claimed in Claim 1, wherein the reference signal is a Direct Current (DC) signal.

5. A system as claimed in Claim 1, wherein the sensor unit further comprises a temperature dependent component for providing an indication of the temperature within the sensor unit.

6. A system as claimed in Claim 3, wherein the reference signal is varied in amplitude to characterise the sensor.

7. A sensor unit apparatus for a power measurement system, the apparatus comprising:

a sensor;

an amplification circuit coupled to the sensor; and

a source of a reference signal capable of being coupled to the amplification circuit for communicating the reference signal to a measuring unit via a cable.

8. An apparatus as claimed in Claim 7, wherein the source of the reference signal is arranged to be coupled to the amplification circuit in place of the sensor.

9. An apparatus as claimed in Claim 7, wherein the source of the reference signal is arranged to be coupled to the amplification circuit in addition to the sensor as a stimulus to the sensor.

10. An apparatus as claimed in Claim 7, wherein the source of the reference signal is arranged to generate a fixed reference signal.

11. An apparatus as claimed in Claim 7, further comprising a temperature dependent component for providing an indication of the temperature within the sensor unit apparatus.

12. An apparatus as claimed in Claim 7, wherein the reference signal is a Direct Current (DC) signal.

13. An apparatus as claimed in Claim 9, wherein the reference signal is varied in amplitude to characterise the sensor.

14. A method of maintaining accuracy of a power measurement system comprising a sensor unit coupled to a meter unit by a cable, the method comprising the steps of:

generating a test signal;

receiving the test signal at the meter unit via a path defined by the sensor unit, the cable and the meter unit; and

calibrating the meter unit in response to the test signal;

the test signal being a reference signal tapped into the path.